DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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FALL PLOWING AND MANURING.

The practice has prevailed with most farmers to be satisfied if they could get their fields plowed and manured in season to receive the seed, without much regard to any particular time, whether it be in the fall, or early or late in the spring. If lands are plowed quite early in the spring, they are frequently settled by heavy rains and their own gravity, so that by seeding time they are too compact to be easily and pleasantly cultivated. If left until about the time for planting, and the manure is then plowed under, it will not have time to become decomposed so as to impart to the crop its full benefit the same season. Beside, time is more valuable in the spring, when there are but a few days between the cold storms which have continued so late for several years past, and the proper moment for sowing and planting.

For these reasons, and for the most important one of all, that the manure applied in the fall becomes decomposed through the winter months, and yields to the surrounding soil most or all its fertilizing elements, we think favorably of applying green manures and turning them under in the fall. Not green *crops*, as is sometimes done, but coarse materials mingled with the droppings of the stall, and unfermented. In this condition it is applied to the ground in its full strength; and under the ground it goes through the process which prepares it to supply the food which the roots of plants are in search of. When animal or vegetable substances containing nitrogen are decomposed, ammonia is always produced, and carbonate of ammonia is found, which is a very volatile salt, and consequently is carried away by the air as fast as it is formed. It makes a great difference, therefore, whether this manure lays upon the surface, or even in heaps, or covered up in the soil where your plants are expected to grow. Experiments show that crops growing the same season do not get the full benefit of unputrefied manures, when they are applied in the spring. But place them in nature's crucible in the autumn, and she sets her agents to work and prepares them for the first germ of the unfolding seed.

By applying the manures which have accumulated during the summer, to the tillage land in the fall, and plowing them in, great losses are prevented *by evaporation*—losses which have scarcely been realized, because imperfectly understood. It should be remembered "that there is no part of any decomposing vegetable manure but what is, either in its gaseous or solid state, the natural food of plants; thus the gases emitted by the putrefaction of a dunghill are so much lost to the vegetable matters of the soil, and such an injury should never be submitted to by the cultivator. Hence the value of green manure; for in these cases every portion of the decaying and fermenting fertilizer is gradually absorbed by the roots and leaves of the succeeding crop." There is always more or less loss by evaporation in composting manures, especially if the heap is placed in the open air. It is generally overhauled two or three times, and the escaping gases during such operations give sufficient olfactory evidence that they are taking their flight.—This waste takes place rapidly at first, and in a less degree at all times, from the surface of the heap during the whole time of its exposure; and when this is extended through several months, the loss must be considerable. Arthur Young says the advantage of using fresh long dung appears very strong.

These seem to be the opinions entertained by very many of the best practical farmers. In speaking of this subject, Mr. C. W. Johnston says, "the controversy which once so keenly existed, as to the state of fermentation in which dung should be used on the land, has now pretty well subsided. There is no doubt but that it cannot be applied more advantageously than *in as fresh a state as possible*, consistent with the attainment of a tolerably clean husbandry, and the destruction of the seeds of weeds, grubs, &c., which are always more or less

present in farm-yard dung. These are the only evils to be apprehended from the desirable employment of this manure in the freshest state; for otherwise the loss of its most valuable constituents commences as soon as ever fermentation begins.

"Great waste is often made in putrescent manures after they are carted on the land; instead of being immediately covered or incorporated with the soil, we not unfrequently see them exposed for days together in the hot rays of a scorching sun, or to the injurious influences of a dry wind."

Upon plowing land in the spring which was manured and plowed the previous autumn, it will be found light, porous, and looking black, with a soft, greasy touch. Seeds placed in such a soil are in a suitable condition to receive the light, air and warmth which they require, and will sprout and grow much more readily than in a more compact soil. This is the first advantage, and the second is, that the plants springing from the seeds in such a soil will grow faster and larger afterwards.

PATENT OFFICE REPORT FOR 1850--51.

This is another volume from the Patent Office at Washington, sanctioned by the government, and chiefly made up of communications from persons residing in various parts of the country, in reply to queries propounded from that office early in the year. Among the contributors, we find the names of many gentlemen competent to give valuable information on the subjects which they discuss. The work, large as it is, sustained by the fostering care of the general government, and receiving abundant materials upon all subjects connected with agricultural interests, ought to be one of sterling excellence. But it is arranged with so little regard to order—the paper is so mean and miserable, and the printing executed so abominably, that the work is a disgrace to the Commissioner, the Government, and all others who have had any control over it.—If the communications were worth printing, they were worth a proper arrangement, and references by an index. Instead of that, the index is somewhat worse than useless, as no reliance can be placed upon it. For instance,—we were desirous to see what Dr. Lee said upon agricultural education, and were referred to page 145. Upon turning to that page, Dr. Lee was not there, nor even in "those parts;" but we were more than half consoled by finding ourselves in the presence of our excellent neighbor, the Hon. M. P. Wilder.

The title-page of the volume informs us of its contents, and that they are classified under seven different heads; but the index makes no sort of reference to this classification. If the reader desires to look under the fourth head, that of Sheep Husbandry, for instance, he may put on his spectacles and patiently turn over the leaves one by one till he finds it—he will get no aid from the index.—There seems to us to be no arrangement whatever in the contents of the volume, and the index only makes "confusion worse confounded." If the Commissioner would request his correspondents to reply to his queries on separate pieces of paper, (and he should take no notice of those who did not,) they might be arranged with little labor, under their respective heads. He should then make an alphabetical and analytical index, and in addition to this, an alphabetical list of the names of the contributors to the volume.

There is really a great deal of valuable information collected in the work, which would be exceeding useful if it were properly arranged. But in its present state it is nearly worthless. We are out of all patience with the miserable "botch-work" in the way of printing at the seat of government. The public documents are printed and bound in such a slovenly manner that they are a disgrace to the nation. The public printing might be done in the city of Boston at a cheaper rate, including cost of transportation, as most of the paper is taken from the north, and in an infinitely superior style than it has been done in Washington for the last ten years. The Patent Office reports are published at an annual expense to the people of over a hundred thousand dollars, and they have a right to expect a better volume from such a liberal investment.

A BENEFACTOR.

The committee on Fruit, Forest and Ornamental Trees of the Bristol County Society, in their late report state that "a wealthy inhabitant of Middlesex County, recently left a legacy of several hundred dollars, for planting trees by the road-side. And they ask—what future wayfarer, as he seeks rest and shelter under the welcome shade, will not pronounce blessings on this benefactor of his race." We wish they had revealed his name, that it might be uttered in gratitude when we hear the wind booming through leafless branches, or softly breathing in the yielding pines. Young men should carve it on smooth beeches, and maidens weave it in green garlands to deck their marriage feast. Blessings on the man who decorates the earth and protects us from winter's blasts and summer's smiting heats. His memory shall be as fresh in our hearts as the flourishing tree which his benevolence has planted.

Grating Horse Radish—Celery.—*D. C., Lowell.*—The Shakers reduce their horse radish in a machine operated by a crank. It has large graters similar to the common nutmeg graters, but we do not know how they are constructed. Celery for winter use is preserved in various ways. We have seen it placed in raised beds in a sheltered position, and covered with alternate layers of straw and earth. This is a good way where the climate is not too severe. With our cold winters, the best way, probably, is to lift the plants on the morning

of some pleasant day and allow them to stand until three or four o'clock in the afternoon, by which time they will become wilted a little. Then cut off the roots, and tops, and pack the edible part in barrels in dry sand, not allowing the plants to touch each other. The barrels may be placed in the cellar, if it be rather dry; celery thus prepared will keep fresh and sweet through the winter.

LATE WORK IN THE NURSERY.

All seed not sown in the fall should be mixed with fine loam, a little moist, put in kegs or boxes, and buried in a light soil, a short distance below the surface. If the kegs or boxes are tight at the bottom, holes should be made through them to let off the superfluous moisture. In this way the seed will keep perfectly good till wanted for sowing in the spring.

Seedling trees, of this year's growth, on wet land, had better be taken up and laid in by the heels, on high light soil; otherwise they will be liable to be thrown out and winter-killed. Tread early snows down around trees, to prevent mice from marking them. A few trees may be conveniently protected by putting bands of tea-chest lead or yellow birch around them; where many nursery trees are laid in by the heels they may be protected from the mice by scattering the earth full and high around them.

If the nursery is very liable to wash, it should be prevented by drains and dams, else the finer soil will wash into the low land,or worse still, into the streams, where it will be lost. It is very important to guard against this loss, which in some nurseries is very great. The water that cannot be drained from the nursery should be scattered over it as evenly as possible, that it may not run in channels and wash away the fine land.

ACKNOWLEDGMENTS.

From Joseph Hains, Lynn, Diana and Catàwba Grapes. We find in these two varieties nearly the same distinctive properties, but the Diana is much superior for being earlier and better ripened. The Diana is about ten days earlier than the Isabella, and ripens well in this climate, but the Catawba is several weeks later, and seldom comes to perfection in this climate. The grapes which we previously noticed from Joseph Harris, should have been Joseph Hains.

From John Fatler, gardener to George Hittenger, Watertown, two very splendid Cauliflowers, remarkably large and excellent quality.

From Col. Henry Little, President of the Bangor Horticultural Society, a large, fair and very beautiful apple, of excellent quality. We do not recognize this variety as cultivated in this country.

From Enoch A. Wiggin, Malden, specimens of apples for a name, from October to February. These apples are large, remarkably fine and beautiful, but not sufficiently ripe for us to judge of their quality.

SPRING BOW PINS.

Where's the bow pin, John? Don't know—I put it in place after I unyoked the steers. Come, boys, we must contrive some way to get over this trouble; this having no *bow pin* when a shower is coming up is bad business. Well, father, I saw the very thing the other day in the newspaper. Here it is now. It is made of what they call malleable iron and won't break, and you can buy them for 25 cts. a pair. By pressing the little thumb and finger pieces on the right of the engraving, the circular part flies open so that the straight pin passes through the hole in the bow, and then the circle springs back and keeps the pin in place. Ah, that looks well, my son; now find the advertisement and see where they are for sale, and send at once for two or three sets. Be sure to put a leather string in the hole made for it in the pin, and tack the other end to the yoke, then you won't have occasion to ask John again *where the bow pin is.*

For the New England Farmer.

THE SEASON OF 1851, AND OTHER NOTIONS.

BY SILAS BROWN.

Gentlemen:—Many people feel an interest to know the state of the weather, and the influence it has had on the crops, in different locations throughout our great country. We have had reports of severe drought in some places, and deluges of rain, tornadoes, earthquakes and other disastrous irregularities, in others, which have a powerful influence upon the agricultural interests in those places where such dreaded dispensations take place. In the eastern section of this State, the sunshine and rains have been dispensed with uncommon uniformity: we have had rains in such quantities that at no time in the growing season the most strenuous fault-finder could have wished them distributed differently. Nothing like a drought has caused apprehensions of short crops among us, or a profusion of rain deranged our regular farming operations. Our rivers and small streams have remained quiet, not disturbing or injuring our bridges or public roads; such a season seldom happens here, and ought to remind us of the obligations we are under to a benevolent Providence. Seed time was delayed beyond the usual period, the weather being cold; the fruit trees were late in opening their blossoms. June was cool till the 21st; there was frost on the mornings of the 6th and 17th, enough to injure the cranberries, and tender plants and vines. From the 21st to the last of the month the weather was extremely warm, evaporation was rapid, and

the low wet land began to feel the salutary influences of summer heat, and vegetation started up with renewed vigor. Grass was well grown and of a good quality, rather more forward than field and garden vegetables; the haying, however, commenced in good season, and the weather was very favorable for drying and securing the crop.

The different kinds of grain and vegetables yielded fair crops of a good quality. There was a medium crop of the different varieties of fruit, except cranberries, which were probably injured by the frost in June. The crop, I believe, is generally light; ours had the appearance of growing upon shoots which sprung from the old vine after the June frosts. They were uncommonly late in blossoming, and had not time to arrive at the usual size, and like "small potatoes," it took a great many to make a bushel. The natural cranberry is such a capricious character that our efforts to improve the crops are all in vain; mowing and burning old vines which are past the bearing state, is labor, with me, thrown away. Manuring will exterminate them instead of increasing their disposition to yield fruit; the meanest gravel and sand appears to be most congenial to their natures; finally, they delight in growing where nothing else will, and precisely to do their own business in their own way. It has been said that a variety had been discovered which will grow and produce upon upland, if that should prove practically true, and the cranberry should become subject to cultivation, it would open a field of enterprise very encouraging to the fruit-grower; but as yet, for more than 30 years, I have never gathered a bushel except on land which has been inundated during the winter. Of all fruit, apples claim the pre-eminence. There is no other fruit which can be kept the year round, unless preserved in some antiseptic preparation,and they are a universal favorite wherever they are known. Whether the first apple tree was a production of the garden of Eden, is a question I leave to the decision of theologians, not having a definite knowledge of its natural history. Within five years all my old apple trees which had the signs of life have been grafted with scions from various sources, many of them furnished by the editor of the New England Farmer. The present fall, our apple trees have begun to reward us for the labor bestowed upon old trees, partially winter-killed 20 years ago,which have produced but little or no fruit since till the present year; some of them have produced remarkably fine apples, which I considered in a hopeless condition, supposing resuscitation out of the question. It is remarkable how old apple trees may be revived by pruning, scraping, plowing, mulching and manuring, when apparently in a dying state. I have no doubt, but a great proportion of our old apple trees, which, to appearance, have arrived to a period of fruitless old age, might be restored to a producing state, and be in advance of those lately transplanted some 10 or 15 years; the advantage of renovating old trees is readily seen. Waiting for young trees to grow and bear has been a discouraging circumstance to many a man, and has been the cause of the almost unpardonable neglect, in past time, of planting orchards. Our ancestors set out orchards for the purpose, mainly, of making cider, which, at a certain time, was a profitable branch of farming. But since cider-drinking has been on the decline, many farmers have treated their orchards with total neglect, or made fuel of the trees, not thinking that they might have been used for a better purpose than furnishing an article, to say the least, which was liable to abuse. With a little labor, those neglected trees might have been grafted with scions taken from good varieties, and now afford a better income from the sale of their fruit, and with less labor than it required to make cider for the market. I believe all our refuse apples, not fit for the market, might be converted into vinegar of the best quality, and the business would well compensate the farmer, and furnish a profitable article of trade.

On the 15th, 16th and 17th of April, the most destructive gale came upon us that has happened since 1815; many of the old forest trees were prostrated in this and the adjoining towns, making quite a stir among lumber-men. In other places the lightning has been destructive to life and property to an unusual degree; and, a full share of earthquakes, tornadoes, railroad collisions, car smashings and other desolating irregularities in "divers places" have reminded us of the instability of some of our buildings, the carelessness of conductors and engineers on railroads, as well as all sublunary projects of man here below. S. B.

Wilmington, Nov. 4, 1851.

For the New England Farmer.

CHARCOAL AND THE POTATO.

BY M. H.

Gentlemen:—In the last number of the Farmer I noticed an article in relation to the potato plat of Mr. Lane, of Chester, N. H. It was stated that a portion of his potatoes—those grown on the beds of charcoal kilns, and those manured by the bottoms of those beds—were more or less affected by the rot according to the quantity of charcoal in the soil, &c. This result accords, somewhat, with my own experience, the present year. Last spring I cleared a hedge of about two rods by forty, on the side of a field, and burned the brush upon the ground. The dense mass of combustible materials made an intensely hot fire, and left a large quantity of coal and ashes upon the ground. After a thorough plowing and harrowing, I planted three different varieties of potatoes on this land. No manure was used. The land had never been manured, or plowed, before. The potatoes grew very large, and *very rotten*. By the side of the hedge, on the grass sward plowed at the same time, manured by spreading and harrowing in green stable manure, with little plaster in the hill, as good sound potatoes grew as I ever saw. The soil of the whole is a sandy loam, rather dry.

I might add that striped, speckled, green, gray and "small black bugs," of which there were any desirable number, evinced no particular partiality for either portion of the field for their operations.

Pelham, N. H. M. H.

Remarks.—Such clear and *concise* statements of facts as the above, may lead to valuable information. The writer states in a note that he has usually found plaster the best preventive of the plague; thinks the disease atmospheric, that the malaria gathers with the dew, and adhering to the vine, descends through it to the tuber. The plaster, being an absorbent, and having a greater affinity for the poison than the potato has, receives and re-

tains it, and thus, in a measure, preserves the tuber.

Three years ago we plowed an acre and a half of upland sward ground—subsoiled so as to make the whole depth 14 inches, then sowed one pound of saltpetre to each square rod, and over the whole one ton of plaster. Hoed them twice and pulled the weeds afterwards. The acre and a half yielded two hundred and twenty-five bushels of good-sized and finely-flavored potatoes. Potatoes planted *and manured in the hill* within ten rods of this field, rotted almost entirely, while in the crop with the plaster and saltpetre not a bushel was found rotten. Whether a similar result would follow in other years we do not know—but we have no doubt that manuring in the hill always has a tendency to induce the rot.

For the New England Farmer.

MAKING COMPOST.

BY FREDERICK HOLBROOK.

The soils of New England are at best but of moderate fertility. Too much of our land has been worn out, has been thoroughly skinned, by a long and exhausting tillage. To increase the fertility of lands not yet worn out, to restore fertility where it has been exhausted, and to gather crops that will remunerate labor, we must be diligent and persevering in the making and application of manure.—Our case is such that we cannot rely simply upon the refuse of our crops and the excrements of our farm-stock; we must add thereto the riches of our swamps and forests, the washings from our fields that have centered in hollows, and all those waste or unemployed vegetable or animal substances, wherever available, that contain the principle of fertility Thus we may cause now desert-places to blossom again, and make the cultivation of New England soil a remunerating business.

Experience has taught me that compost-manure is valuable very much in proportion to the care with which the various materials have been mingled. One man will take certain materials, all suitable for being converted into a rich compost, tumble them together without care or calculation, apply the mass to his fields with as little care or thought, and finding its operation upon his crops very variable and uncertain, or that it is quite inoperative, will denounce the whole system of composting manures as an idle theoretical notion, unworthy the attention of a *practical* farmer. Another man will take precisely the same materials, mingle them minutely and perfectly, and in due proportions, apply the compost properly to his fields, obtain fine crops wherever it is applied, his lands will steadily improve under such treatment, he will add barn to barn, and will fill his barns.

In the business of making manure, I for one have found it for my interest to be always awake and ready for improvements—to learn whatever others can teach me, and to discover new and effective methods myself. I have various ways of making good compost, according to circumstances and the season of the year. It would be a long story to speak of them all; but I have one method in particular, not very generally practiced, yet which I like much, and it shall be my present purpose to describe it.

The floor of my stables is just long enough for the cattle to stand or lie down upon comfortably, and no more. Five feet and three or four inches, from the mangers or standards to which the cattle are tied, back, is a suitable length of floor for cows, or for young cattle generally; for larger animals, the floor should be proportionately longer. Immediately back of this floor, I have a water-tight plank trench, four inches deep and twenty inches wide. Between the trench and the side or boarding of the barn, there is a walk or passage-way, two feet in width. This trench is the place of all places for manufacturing compost-manure. Some winters, muck is put into the trench, and others, leaves and vegetable mould collected in the woods. Last winter, muck was used. It was dug in August previous, and piled on dry ground near the swamp to drain and lighten; a part of the heap was carted to the barn as soon as the cattle were to be stabled in the fall, and the remainder was hauled by the first sledding, and piled near the stable door under a shed open on the south side. In the coldest weather of winter, the frost penetrated the pile pretty deeply; but the muck was easily cut up with a sharp pick-axe, and it thawed very soon after being deposited in the trench. I could readily have put the muck in a place mostly free from frost; but preferred to have it frozen; for that operated mechanically to break down the lumps, to divide, pulverise and improve it. A bushel basket full was put behind each animal, every morning. The solid and liquid manure-droppings of the day and night fell into the trench, upon the muck, the liquid droppings completely saturated it, and the contents of the trench, thus mingled, were thrown out in the morning. In the very coldest days of winter, a thin sprinkling of straw or other litter was placed over the bottom of the trench, before putting in the muck, which prevented the latter from freezing to the trench. There were but few days, however, cold enough to make this precaution necessary.—The cattle always had a bedding of straw or other coarse litter, which was daily thrown out with the contents of the trench, and served to swell the manure-heap, to keep it up light, and to promote fermentation. The compost was minutely and nicely mingled every day by this mode, and no shovelling over was afterwards necessary. The solid and liquid droppings, falling upon the muck fresh and warm from the animals, and coming in contact with every portion of it, produced an immediate and powerful action upon it, so that a much larger quantity of muck was well prepared for use in the spring, than could have been properly prepared with the same stock and by ordinary modes of composting.

I have two men now at work in the woods, gathering up the leaves and vegetable mould accumulated in the little hollows, which material is to be passed through the trench in the stable during the approaching "foddering season." They have stout heavy hoes, made expressly for this business, with which they grub up the leaves and mould that in these hollows have formed a bed from two to six or eight inches deep. In the afternoon, with dung-forks and wheelbarrows, they collect into one heap what has been loosened up with the hoes in the fore part of the day, locating the pile in a convenient place for making it a large one, and near some sled-road through the woods, so that it may be accessible at any time in the winter. The men have

been thus employed four days; and in one day more they will have a heap collected of at least fifty cart-buck loads. A portion of the heap will soon be carted to the barn for early use in the trench, and the remainder will be hauled by sledding, and piled under the shed. During the time the cattle are stabled, through the fall, winter, and early spring, the trench will be daily filled with the leaves and mould, and thus will be made from four to six times as much manure as is ordinarily made by farmers from an equal number of cattle wintered. The liquids and gases of the cattle-manure, by too many suffered to waste, will be absorbed and held by the vegetable mould; and in the spring I shall have a black free mass of compost, fit for all sorts of crops. Having often used precisely such a compost, I know that this will be most refreshing and invigorating to a hungry New England soil. It cannot be excelled as a dressing for orchards, and for all kinds of fruit or ornamental trees; and wherever it is applied, satisfactory results will follow. It is the easiest of all composts to handle, and the lightest to haul. A pair of horses or oxen will carry by sledding three-fourths of a cord of it, well trodden down. The leaves and mould heaped in the woods for future compost are so light and warm, that the pile never freezes more than two or three inches deep: if covered by snow, it will not freeze at all; so that it is always ready for handling and for hauling to the barn in winter. A larger proportion of the leaves and mould may be daily used in the trench than of muck, because, being free from acids, and composed of light vegetable matter in all stages of decay, a powerful fermentation commences very soon after it comes in contact with the urine in the trench.—Even if thrown out of stable-windows, provided the heaps are on the south side of the barn, the compost will generate so much heat that a fall of snow upon it a foot deep, will generally melt off in two or three days.

The mould formed by a growth of hard wood, is of much better quality, and is more in quantity, than that made by a growth of hemlock, pine, or spruce. Having a plenty of the former, I have made no use of the latter. Of the hard woods, the walnut, maple, blackbirch and ash make the best mould; that from the beech is good, but thin, and difficult to grub up, because the roots of the trees run very near the surface of the ground. Very good mould is found around butternut trees, and that around chestnut trees is pretty good.

It has been nearly an annual custom with me, for several years, to collect from ten to twenty cords of this material, composting it variously with the excrements of animals, and applying it variously for the improvement of the tillage-fields; and I have not yet seen cause to abandon the custom. True, it would not be advisable to remove this mould indiscriminately from the forests; but if taken from the hollows and places where it gathers in extra quantities, it probably soon accumulates again in sufficient quantities for the wants of the trees; and if it be taken only from these places, leaving the knolls and plains undisturbed, the injury, if any, to the forests, will be more than balanced to the owner by the benefits imparted to his tillage-fields and crops.

To any one who may chance to read this communication, and who is desirous of making good compost in large quantities, I would say—try the method I have now detailed, and so ascertain whether it will do for you or not. If you winter say fifteen to twenty head of cattle, you can rearrange your stable-floor and construct a trench in it at an expense of about twenty dollars; and this well done will answer the purpose for years. Then gather materials to put in the trench for compost. If the leaves and mould of wood-lands are conveniently accessible, heap them up in November, and draw the heap to the barn, a few loads at a time, in the winter, or if there is spare room in a shed near the stable, pile it all there. It will not freeze much in the pile. If swamp-muck is most convenient, dig it in August, or earlier, and provide a dry warm place for it, in or about the barn if you choose, though I should pile it under the shed and let it freeze; for the frost will improve the muck, and with a sharp pickaxe, one can easily cleave it from the pile from day to day, as wanted.

If neither vegetable mould and leaves from the woods, nor muck, can be conveniently procured for the trench, then turf dug and piled in season to rot before being used, rich loam from the road-side, head-lands about the fences, or the wash centering in rich hollows, may be provided; and in case such materials can be used, they should be piled in a place pretty much free from frost; for frozen loam is quite a different substance from frozen muck: the latter is spongy, and easily operated on; the former is almost as hard and unyielding as stone. Whichever material is used, it will be well to put straw, swamp-hay, brakes, or other refuse litter under the cattle, for bedding, thereby promoting their comfort and swelling the manure heap. If swamp-muck is put into the trench, these light bulky vegetable substances used for bedding the cattle, and daily thrown out with the contents of the trench, will cause the heap to lay up lightly, will promote its fermentation, thus expelling the acids of the muck, and preparing it for more immediate use.

If it is inconvenient or unpracticable to provide oneself with a barn-cellar, the compost will work well thrown out at stable windows, only let there be a roof over the heaps, (a cheap one will do,) to protect them from sun and storms. Even with a cellar, it would still be well to mix the compost in the trench, that being the nicest way, the way to make the greatest quantity of effective manure from a given number of animals.

The method of composting here detailed may be objected to because of the labor involved. The reply is, that most things of value in this world come to us only as the result of diligent unintermitted labor. He who is content to see around him barren fields, scanty crops, and lean starving animals, may pass along without devising ways for changing such a condition of things, growling at all propositions of amendment pointed out to him, and reaping such returns as an exhausting, skinning tillage will give him. But it is far better to be up and doing in the manufacture of manure for the invigoration of the soil; it is both pleasanter, and more profitable, to be pursuing an improving, rather than an exhausting mode of farming.

F. Holbrook.

Brattleboro', Nov. 1, 1851.

☞ Joshua Upham, of Salem, has taken out a patent for "an improvement in compounds for extinguishing fires." A new fire annihilator, we suppose.

For the New England Farmer.

COLONIZING BEES.

BY P. L. CONVERSE.

GENTLEMEN:—I saw in a late Farmer, a communication from J. Brown, in relation to colonizing bees, which he seems to think is the best way of managing them; and as I differ with him in opinion, permit me to state my objections, hoping it will lead able pens to give us more light on the subject.

In the first place, he says, "they did very well till he got six or eight hives, then the stronger swarms would often rob the weaker." In reply, I would say, there is no necessity of having weak swarms; if instead of the prevailing fashion of dividing swarms, and crowding out weak swarms and casts, (that are good for nothing themselves and only weaken the parent stock) it should be the fashion to take exactly the opposite course, and double weak and moderate swarms, (which is very easy and practicable) and prevent their swarming as much as possible, there would be no occasion to complain of so much robbing as is common.

Bees will sometimes, under the best management, engage in fighting and robbery, and if your correspondent is troubled that way, I will tell him the means by which I escape the most of the evil, never having had a swarm robbed and but very little fighting. In the latter part of summer, as soon as flowers begin to fail, I commence closing up the entrances of all my hives by degrees, by means of a slide, *before fighting is likely to take place*, until in the height of the robbery season, I leave scarcely an inch open, and if they need air I give it to them inside the house. I have found by experience that they will rarely attack a very small hole, with a moderate number of guards around it, unless excited by previous success.

In the next place, as to smothering them with brimstone, killing the bees and spoiling the honey, I think there is a better mode. The method I use is as follows, viz :—I enter my bee-house, close the doors and windows, take the hive from the shelf, smoke two or three whiffs of tobacco smoke into the hive, keep it closed a few minutes, turn it bottom upwards, cut out the comb, knocking the bees on to the floor—(they cannot fly because they are drunk,) as I proceed, I take the queen bee away from the swarm, collect the whole in a box, put them over another swarm, and the operation is completed, having saved your honey free from smell, and your bees from death, to be useful to you the next spring. In the next place, as to colonizing, he says, "in the summer of 1836, he put a swarm into a house, and took 145 pounds from them in one year," without saying how much he took in the other years.

Let us examine the case. Bees under good management will usually average one good swarm each year, from each hive, and each such swarm usually swarms the next season. Suppose the swarm of 1836 had been put into a common sized hive, and been suffered to swarm once a year afterwards, how would the matter stand now in point of profit?

In 1840 they would have increased to 16 swarms; allowing those 16 swarms to afford only 8 swarms per year to keep the stock good, he would have 4 swarms each year to sell, worth $5 each, without the hive, and as each stock hive will make at least 10 pounds per year, which will amount to 160 pounds, worth one shilling per pound, at wholesale, worth say $26,00, he would get yearly $46,00, instead of 145 pounds, worth $24,00, and no swarms, and that, too, without running the risk of losing the entire stock by any single casualty that might happen.

It will be recollected, that this calculation, (which I believe from experience is below the average) is made near Boston, where probably not one-half the honey can be made per swarm, that can be made in Maine, where the other method is tried.

One of my neighbors has tried this method in the way your correspondent describes, and the result is as follows:—

The bees have been colonized 8 or 10 years, and the yearly profit is about 15 or 20 lbs. of honey, and of course no swarms, while the bees have not increased beyond the size of a good strong swarm.

Writers on bees are almost invariably against the practice, and certainly my own observation and experience teaches me that it is not profitable.

Yours, P. L. C.

Woburn Centre, Nov. 1, 1851.

REMARKS.—In order to a full understanding of his operations, our correspondent should state how his Bee House is constructed, how he gets light to work by to find the Queen Bee, &c.—These minute particulars are important to those who wish to adopt a new mode of procedure.

For the New England Farmer.

POTATOES AND POTATO ROT.

BY A. G. COMINGS.

In my last communication upon the subject of the disease among potatoes, it was my aim to set forth distinct peculiarities which I had observed, hoping thereby to render some service to cultivators of this root. I have no confidence that any man can search out the cause of it, entirely. Like the numerous diseases to which man is subject, predisposing causes may be ascertained; but the producing cause will yet, in a great proportion of cases, remain a mystery. The wind blows where it pleases, but its course is known only by the effects produced by its progress. So, in a measure, are pestilences; whether the animal or the vegetable kingdom furnishes the victims. The diseases of vegetables are not more within the power of man's knowledge than diseases which afflict animal life. But to the subject.

At the time of writing my last communication, where the tops of my potatoes remained so green and fair that no one would suppose them to be diseased, the tubers had been diseased for more than three weeks. At the expiration of about four weeks from the time I first discovered any in the second stage of disease, that is, the decayed part dark colored, there came a shower of rain upon them; following which, in less than forty-eight hours, the tops began to turn dark colored, and in a very short time not a green leaf could be found. The shower was so light that it did not wet the soil to the depth of an inch. By a full and critical examination, I found that the tubers were not affected injuriously by the shower, while the tops *appeared* to have been killed by it. It is my opinion that the disease was in every part, tubers, stalks

and leaves, before the rain. My examinations have fully satisfied me that the fibrous roots and tubers of the potato may be subject to disease for some length of time, and the stalks and leaves give no indication of disease. In some cases the fibrous roots only are diseased, the tubers remaining entirely sound. In some instances the tubers alone are diseased, and the fibrous roots and the tops all in an *apparently* healthy state. The fact, however, that such tops die suddenly after being wet with rain, shows that they were not in a healthy state.

All ideas of stopping the disease by cutting off the tops, or by sowing lime over them, after they begin to change color, appears to me to fall short of the cure. The more my researches have been extended, the more evedence do I see to confirm me in the opinion that the disease commences when the soil is in a fermented or fermenting state; and that whatever is applied to the soil which will prevent this fermentation, during the latter part of summer and early in the fall, will prevent the rot in potatoes, so far.

Things Ascertained.—It has been ascertained by observation, that potatoes growing in an open, gravelly soil, are less subject to disease than those growing in a close and very rich soil. It has been ascertained that potatoes planted in the midst of dry and thick turf are less liable to rot. It has been ascertained that salt, lime, ashes, charcoal and plaster, add much to the healthy condition of the growing potato. From what we have ascertained, let us improve for the future.

Upon receiving the last number of the "Farmer," I observed and read with much interest your remarks under the head of "Charcoal, and the Potato Rot." The account of your visit to the farm of Mr. Lane, of Chester, will convince many that charcoal is injurious to the health of the potato.—Very different will be the conclusion of others, when they take into view a certain fact, of which it is evident to me that you did not think, at the time of writing. If you take the dust from a new coal-bed, you will find it highly impregnated with carbonic acid. During the burning of a coal-pit, an immense quantity of carbonic acid gas is thrown off, while the wood is becoming carbonised. This, being confined within the pit, in seeking to escape, enters the ground beneath the pit, and into the covering, where it combines in large quantities with the earthy matter, and remains with the "fine coal" you speak of, which we commonly call coal dust. This coal dust, and the soil beneath where the pit is burned, is charged with a very different property from charcoal, which you know is not carbonic acid, but carbon.

I believe that in every instance which I have observed of potato rot, where they rotted in the ground, I could discover evidence of a large amount of carbonic acid in the soil. In the hot season of the year manures applied to the soil undergo a change by fermentation, and during the progress of this change a large quantity of carbonic acid is disengaged: and if the soil is porous or open, like gravelly soil, or sandy, it escapes into the air; from which the leaves of plants take up what they require, for the formation of woody fibre, or other uses Where the soil is fine and close, or wet, less will pass off into the air, and of course more remain in the soil. The deeper you go into a soil that is filled with manure, the more carbonic acid will be retained, and the soil will naturally be in a more moist state. If frequent and heavy rains occur during the season of the usual fermentation, which is generally during dog-days, the less of the carbonic acid will escape from the soil, although, in fact, more of it will be generated in warm, wet weather than in any other. This is true of all decaying vegetable matter. During the progress of its decomposition, when by fermentation it is transformed to vegetable mould, carbonic acid is given off.

The primary cause of the disease among potatoes may be in the effect of some certain position of the heavenly bodies, whose power of attraction does doubtless affect living things in this world of ours. It may be in something else. Certain it is, that while no different properties can be discovered in earth or air than has been known before this disease commenced, yet, to me it has become quite a settled matter that in the presence of a large quantity of carbonic acid, the potato cannot now live and enjoy health. Whatever, therefore, will prevent the generation of large quantities of it in the soil, or afford it an opportunity to escape, will be gratefully acknowledged by the afflicted potato.

Mason, N. H., Oct. 27, 1851. C.

Remarks.—We are under obligations to our correspondent for his favors. His reasoning is plausible, to say the least, and shows attentive observation, and this will eventually help us out of the difficulty that besets us. Did not the potato grow with perfect soundness on coal-pit grounds twenty years ago? Does it not grow well now, on new land, where a thick mass of dry grass and roots are turned under, which would be the materials to give out carbonic acid in large quantities? Does it not grow far better on such land, than on old land, though the old land may have received no manure for many years? Such is the fact in our experience. If this holds good, the carbonic acid would seem to be favorable to the growth and protection of the crop, rather than an injury to it.—The finest potatoes have been raised the past season where the ground was manured in the hill, while near by, and on ground not manured at all, they have rotted badly. We are still of opinion that an absolute uncertainty exists as to the cause of the disease. The suggestions of our correspondent are somewhat new, and worthy of consideration.

HUSK BEDS.

Mr. Editor:—One of the best articles that can be used for filling under beds, is the husks, properly prepared and stripped, of Indian corn. Only the fine, interior husks, or those which are white and soft, should be used. Owing to their superior elasticity and durability, they make the very finest beds, and are much more comfortable in hot weather, than straw or stripped hazel, willow or any other kind of wood. A bed of stripped husks will not need refilling for years. It may be well however to remark, that the husks should be well and carefully dried, before placing them in the beds, as the smallest degree of humidity will cause them to mould, and emit an unpleasant odor, for weeks. —*Germantown Telegraph.*

THE PRIZE REAPING MACHINE.

This machine was patented in 1845, by C. H. McCormick, of Virginia, and has been found one of the best labor-saving machines ever introduced to the farmer; but particularly to the wheat growers in the South and West. It requires but two hands to work it—one man to rake off the grain and a boy to drive the horses. When the machine is in good order and on fair fields, it will average cutting about two acres an hour. The grain is cut cleaner, and more even than it can be cut with the cradle or sickle. The raker rides on a seat attached to the machine, as will be seen by the cut, and takes the wheat off at the side in gavels, ready for binding. The knife has a sickle edge, and plays horizontally; and is represented to cut one hundred acres without being sharpened. The reel gathers the wheat for cutting, and lops it over on the table for the reaper. Mr. Rives, of Virginia, states that his harvest hire had cost him $200 per year with the sickle and cradle, and $30 per year with the machine! This is certainly an important saving in a single item of the plantation. There is also a considerable saving in feeding a less number of hands, and he thinks that half a bushel to the acre is a moderate estimate in the saving of the wheat itself. The machine is simple in its construction, and therefore not liable to get out of order. We have seen a field of twenty-two acres cut in one day with this machine, and on passing over it found less scatterings than are usual when the straw is cut with the cradle or sickle.

☞ One of the worst things to fat on is Envy. In our opinion, it is as difficult for a grudging man to raise a double-chin, as it is for a bankrupt to raise a loan. Plumpness comes not from roast beef, but from a good heart and a cheerful disposition.—*Albany Dutchman.*

THE PRINCIPLES OF BREEDING.

When we undertake to enforce upon farmers the importance of attention to the breeding of pure stock, that is to say, of stock whose blood has been known to be good for years, we are often met by a question something like this—"Don't you believe that I can produce a dozen of as good cows, or a dozen as good yokes of oxen from our native stock, as you can produce of what you call thorough bred animals, your Devons, and Ayrshires, and Durhams?" Editors are bound to be patient and answer the same question many times, and we will attempt to reply to this, which is considered by many as unanswerable consistently with truth, and at the same time, with our high estimate of the value of thorough bred stock.

Perhaps in New England, we may have one animal in ten or twenty thousand, which may be regarded as of pure blood, the remainder being crosses of all descriptions, having the mixed qualities good and bad of forty or more accidental generations, and we may, without affecting the general subject, concede the fact, that a given number of *accidentally* fine animals may be selected from the whole, which may be *as individuals*, of as much pecuniary value, as any equal number of thorough bred animals that can be found in the country. Among the various matters of interesting speculations upon the principles of breeding, many of which are, like the colors of flowers, the circulation of sap, and the *fact* of vegetation, mysteries beyond our comprehension, there are some results of observation so constant and uniform, that we venture to call them *principles*. One of these, and the leading and familiar one is, that *like produces like* throughout nature. We do not expect to gather grapes of thorns or figs of thistles, nor do we expect our horses to breed cattle, nor our cattle

swine. And we all go much farther than this, for we expect the young to resemble the parent—we believe that qualities are transmitted. as the old Divines expressed it, by "ordinary generation." This is all very well so far, and indeed it is rather going too far, than not far enough, on the principle in question; and the error lies in the idea that qualities are derived only from the *immediate* progenitors. Now every thorough breeder of stock *knows* this to be an error. He knows, what any observing man may easily satisfy himself to be true—that the young often bear a stronger resemblance to some remote ancestor than to the immediate parent. Especially is this the case in violent crosses—by which we mean crosses of breeds very dissimilar.

A pure Durham bull introduced into a region of mixed stock, which, for want of a better name, we term *native*, will produce a race which will be very diverse, some individuals manifesting strongly the peculiar traits of the Durham, while in others scarcely a trace of the blood is seen. Even stock from first rate *native* cows, bred by such a bull, often proves worthless, although the *chances* are certainly great for improved grades. Where breeds are thus crossed, occasionally an animal is produced as we have said, bearing a striking resemblance to some ancestor, two or three generations back, and perhaps very little to its immediate parent.

In a word, the difference between breeding pure and mixed stock is this, that the one is matter of certainty, the other of accident. The principle *that like produces like* is maintained in both cases. There being but one blood and that of ascertained qualities, the progeny can have no hereditary taint which may come out and disappoint us. The young *must* resemble the immediate parents, because they are of the same blood, and so was their progenitors. Hence we find in thorough bred stock, as the Devons, a striking resemblance in form and size and color, and may calculate with certainty, that every animal will be good—the *average* of the stock being far above that of accidental crosses.

Of course, we do not mean to countenance the idea of breeding *in-and-in*, nor to disapprove of judicious and systematic crosses of improved animals.

We merely wish, at present, to insist on the importance of attention to breeding, upon some principle, and to suggest matters for reflection to those who have given no serious attention to the subject.

In our future numbers, we hope by our own or some other hand, to pursue this subject more in detail, and give it the attention which its importance demands.

☞ A drop of water has the properties of the sea, but cannot exhibit a storm.

COAL-TAR FOR APPLE TREES---CAUTION.

A writer of high authorship, a few years since, recommended the use of coal-tar, to prevent injury to apple trees, by mice gnawing the bark. The directions were, to apply it with a brush, in autumn, directly to the body of the tree, near the surface of the ground. We have heard of several persons who have ruined their trees by this application. One gentleman in New Hampshire killed more than a hundred young trees, by this means, about three years ago. He is inclined to the opinion that the tar acts chemically on the bark, to its destruction.

It is not improbable, that the injury might result from the greater absorption of heat by reason of the *black* color of the substance applied. It is quite probable that mice may dislike tar with their food, but the risk of injury from them is far preferable to this destructive remedy.

If trees are liable to injury from mice, carefully remove all straw, turf, and rubbish, make the surface smooth around the tree in the fall, leaving no comfortable hiding place for the rascals, and throw up sand, or light soil about the trunk, to the height of a foot or more, and there is little danger. Manure likely to ferment at all, must not be heaped up in this way about trees in autumn. We have known the bark peeled off of young trees by the action of the heat and cold of spring upon manure thus applied, so as to destroy them utterly. Thoroughly composted manure would probably have no such injurious effect.

WORK AT HAND.

Review.—Before the snows fall, and the earth is closed with frost, take a careful survey of the whole farm and its occupants. Remember that the comfort of all your animals is in your keeping, and that if you expect them to return you a profit for the care and labor bestowed upon them, they must be well fed and comfortably sheltered.

Fences.—Visit these, and when out of line, straighten them up, so that the winter winds and snows may not snap the posts and rails. Where a few stones are leaning in the wall, reset them, or the heavy frosts in spring will be likely to throw down many feet.

Stones that have been turned out of the earth, or blasted, should be laid upon other small ones, so that they will not become frozen to the ground. A single horse hitched to a stone boat fitted with shafts, will draw off almost any quantity in a day, when the ground is covered two or three inches deep with snow. Or the drag may be chained to the hind cross bar of the sled, and used in that way.

Implements.—Place all your wagons, carts, plows, harrows and all other implements under cover. If any of them need repairing it may be done during the boisterous days of winter. Tools

thus cared for will last twice as long as those exposed to the elements, or used when needing repairs.

Order and neatness in everything are essential to profit. Broken posts and rails, old wheels and parts of carts, sleds and small implements scattered about the yards and road-side, are indicative of anything but system and true economy.

The House.—Before the fierce winds blow about your ears and benumb your fingers, look well to all your buildings. See that every clapboard on your house is tight in its place; that the doors shut easy and closely; that the broken panes of glass are replaced by whole ones; that the roof is examined and made tight,—then, while around the cheerful winter fire, no fitful blasts will howl reproachful requiems in your ears.

The Cellar.—The temperature of the cellar should be kept as low as is convenient for the better keeping of the roots. Ventilate it often. If the heavy rains find their way, or the springs flow in, dig a trench all round the outer edge and fill with stones or brush, gradually sloping to the outlet or drain.

The Barn.—Make the barn all tight; batten the cracks about the horse and cattle stalls. Comfortably stabled and bedded, your animals require much less food than when shivering with cold. There is more profit from working cattle and milch cows, young stock grow faster, and there is a greater gain every way in the careful treatment of your animals.

The Orchard.—Take away dry grass and weeds, or old mulching from young trees; mice will rarely gnaw them unless there are substances near suitable for the construction of their nests. If these animals are troublesome, it will be better to throw half-rotted leaves, or old peat-mud, about your nursery seedlings, than to use any coarse litter, as we have suggested before.

PROTECT YOUR FRUIT TREES.

A great many fruit growers buy good and handsome trees, and get them growing well, and then frequently, by neglect, allow cattle to injure or destroy them. Cattle are very fond of browse in winter, and when they cannot have convenient access to it they will chew up suculent shoots if they are nearly an inch in diameter, and break down and disfigure the tree.

A little attention to walls and fences will prevent this great evil, and bring forward the promising trees to be a profit and an ornament. Sometimes a fruit-grower pays fifty cents for a tree, and fifty more in taking care of it, and then, from its fine, promising appearance, he would not take two or three dollars, and it is richly worth it; yet, for the want of a few minutes' time, in fastening a board, or fixing a nail, this beautiful and valuable tree, and perhaps many more, are destroyed by some unruly animal. Now is the time to attend to this business, and let it be well done, that the trees may be safe through the winter.

AN OLD SETTLER.

The Gentleman's Magazine for 1762 contains an account of the age of a chestnut tree then growing at Tamworth, in Staffordshire. This tree, it is said, was, at that period, probably the oldest, and certainly one of the largest, in England, being fifty-two feet in circumference. Its period of rising from the nut may be fixed at the year 800, in the reign of King Egbert. From that date to the reign of King Stephen is 335 years, at which time it was fixed on as a boundary or landmark, and called by way of distinction, "the Great Chestnut Tree of Tamworth." From the first year of Stephen (anno 1135) to 1762, is 627 years, so that its entire age at that period was 962 years. It bore nuts in 1759, from which young trees were raised.

For the New England Farmer.

WHAT'S IN A NAME?

It appears to be a matter of some considerable importance with many, to have a name appended to every newspaper article. I have begun to be in doubt whether it were best or not to write again for the "Farmer," without deciding to put my name to whatever I should write. I have, however, resolved to write *this once*, and I must inquire, "What's in a name?"

I sometimes take up a paper and observe an article from the pen of some well known and popular writer. Immediately I engage in reading it. It is upon the subject of agriculture. The writer gives an account of a very large crop which he has obtained, and tells us what he applied to the soil before planting. All that is fine—it is first rate. Now any man can go and do likewise, for this very popular writer has told us how it has been done (!). Well, here is a case, which, were it not for the popularity of the writer, would have been closely criticised by one part of the readers; and passed by like other things by the rest. There is a great omission in it, and one which throws the whole story into a state of worthlessness. The writer has omitted to describe the soil upon which he was so successful. It might have been rich in certain properties not found in soils generally, and these properties were brought into action by the agents employed to change the condition of the soil. Such is, in fact, the character of articles which occupy the columns of agricultural papers. They serve to get people into a great many experiments in imitation of those of which they read, which prove highly injurious to them.

For myself, I reason that a man who depends too much upon another, will find his case a bad one. Were I known as familiarly as I could find it pleasant to be, with all who read what I write; and as popular with them as my vanity could desire, yet I know that *truth*, and *knowledge*, not my name, should guide them. I should therefore wish them to scan every article I should write for them, closely and critically. If an important omission is made, the chain is thereby broken.

In some respects an agricultural paper appears better to us, where each article has a full signature. But is none of that *fancy?* A man's name is his own property, in a sense that useful truth can hardly be said to be. Those who write for papers are with much propriety called "contributors." The editor holds a contribution box for them to give what they may be disposed, for the good of his readers. Some men give a large sum. Take such a man as writes for the religious press, for the agricultural, the moral, the scientific, &c. Let him write for a half dozen or more papers, two or three articles for each every month, and when time and study, stationary used and postage paid on his letters to editors, all come into the account, it will swell to an enormous tax. I am not guessing about it. Besides, to pay for all the papers he is somewhat under necessity to patronize, counts up again.

For one, I must urge that a man has a right to keep his name to himself, if he commits no assault upon any man who wears a name. A writer who fires his shots at other men's names, certainly ought to expose his own as a target. But one who, like me, meddles with no other man's name, cannot be supposed to need a label upon him to keep him "right side up with care."

The editor will perhaps balance his head upon his thumb, in the style of Benjamin Franklin, and say, "If you won't sign your articles, I don't care if you stop writing."

All we have to say to it, is,—the world is full of notions, and ours must have a place in the world's budget. C.

Mason, N. H., Oct., 1851.

REMARKS.—Name, or no name, our correspondent is most heartily welcome to our columns. We hope to hear from him often.

For the New England Farmer.

DOMESTIC POULTRY.

BY G. TILLINGHAST HAMMOND.

Main says, "the breeding and rearing of domestic fowls includes two special, though different objects. The first, is that of rearing poultry for amusement; and the second, doing the same with a view to profit."

In France, poultry forms an important part of the live stock of the farmer. And we see no reason why it should not be of the same relative importance in this country. Most farmers have paid very little attention to this part of their profession. Of late, however, it has begun to assume more importance. Farmers in general manage their poultry in not the best way, for them or the fowls.

They are permitted to run where they please; to lay, and sit at any time they may wish. And when the hen comes off with her chickens, she is suffered to ramble about, exposing the young brood to cold and wet, which thins them off rapidly.

It is left with them to find a place to roost where they can, probably in some exposed situation, such as a tree, or out-house.

They are allowed to go half starved; no attention being given to feeding them.

And who would wonder if few eggs were produced, and the spare and sickly chickens which are hatched seldom yield much profit.

Try it, farmers, give your hens a chance to return all the profit they are able to. And after one such effort, in which they have been well cared for, if they do not change, then discard them from the farm and introduce stock that will be profitable.

Brooklyn, N.Y., Nov. 12, 1851.

For the New England Farmer.

A RAPID GROWTH.

GENTLEMEN: — On the 8th of April last, I purchased a pig weighing 136 pounds, at six cents a pound, making $8,16. I killed him on the 8th inst., and he weighed, dressed, 560 pounds. I sold him for seven and a half cents a pound, for which I received $42 in cash.

Truly yours, THOMAS D. BOND, *Baker.*

Wilmington, Nov. 8, 1851.

REMARKS.—The above is the greatest gain we have ever heard of in an equal amount of time; the increase being four hundred and twenty-four pounds in 214 days! nearly two pounds a day for the whole time. Our friend Bond must possess a secret that has never found its way into our pig trough. He signs himself a *Baker*, and we suspect the secret of his success passed through the baker's oven or kneading trough. Whatever fed upon, (if it were not bank-notes,) there must be profit in making pork with such a rapid gain.

For the New England Farmer.

ICE HOUSES.

MR. EDITOR:—I have taken the liberty of writing, for the purpose of giving you my plan of filling an ice house, hoping it may benefit those who live a long distance from any river or pond where ice may be obtained. My ice house is made by setting a frame ten feet square into the ground, and plank set up on the outside, and dirt thrown in to hold them up to the frame. The sides and top of rough boarding, the floor made of loose plank, and filled by letting a part of my surplus water run in during the coldest weather, which freezes up solid and keeps well. The plan was ridiculed at first by some of my friends, but the experiment for the last two winters has changed their opinion.

Respectfully yours, C. S. HAMILTON.

Hartford, Oct., 1851.

PLOWING BY STEAM.

Lord Willoughby d'Eresby, an opulent and practical cultivator of the Grimsthorpe estate, near Bourne, England, has recently made several most successful experiments in opening and pulverizing the soil by an engine. A writer in the London *News*, describing them, says that steam plowing is now no longer a problem. The field selected for the last experiment had grown a wheat crop, and was of good tillable soil. The engine was placed on a moveable train at the end of the field. By way of testing the relative powers, the plow, a double one, with reversed shares and coulters, was drawn in one direction by horses, and contrarily by steam. The horses, four very powerful animals, had much labor to drag the implement, and that only at a slow pace; whilst the engine, of

26 horse power, hurried it back as fast as a man could fairly walk to conduct the plow. After several "bouts," a subsoil plow was attached to a gage of nine and afterwards twelve inches. This additional burden, which the horses could not possibly have drawn, evidently steadied and improved the motion, and left the work in a most satisfactory manner. Harrows were afterwards appended with an equally pleasing result. The plowing took place across old land, which showed in some places considerable dips. Two engines placed parallel at each end of the field would, without difficulty, with only a double plow, complete four acres of land in ten hours, and, if required, subsoil it too. The relative expense of plowing 24 acres of land is given as follows; by horse £9 12s, by steam £6 16s. By steam power the twenty-four acres would be completed in a week. It would require at least ten horses to plow it in the same period.

VALUE OF PHOSPHORIC ACID IN AGRICULTURE.

BY DR. C. T. JACKSON, BOSTON.

The importance of phosphoric acid, as an ingredient of soils, is not sufficiently appreciated by practical agriculturists. They do not seem to be aware of the fact that this acid is essential to the healthy growth of all plants, and that its presence in food is absolutely necessary to render it capable of sustaining animal life.

It does not exist in the soil in a free or uncombined state, nor is it so found in either plants or animals, but it is always combined with the earths and alkalies, in all three of these kingdoms.

In the soil, the comparatively insoluble salts of phosphoric acid are found, and it is evident that they are the only ones that would be retained; for water would dissolve the soluble salts, and soon transport them into that great reservoir of all soluble salts of the earth—the sea, from whence they would not return, since they are not in any degree volatile.

The wisdom of this law of nature in making the most precious saline manure a fixed and difficult soluble salt, is at once obvious; for it is thus kept always ready in the soil for the plants to act upon according to their need.

By their action, little by little the earthy phosphates are dissolved, taken into the circulatory vessels of plants, and, by the most curious laws, undergo changes of composition—exchanges of bases and acids taking place with the other saline matters absorbed from the soil. Thus we find phosphate of lime is partly changed into phosphates of potash; and soda, another acid, taking possession of the lime, while it yields up its alkali, with which it was formerly combined, to the phosphoric acid, and new salts are produced, in such proportions as the plants need, and adequate to the wants of animals feeding upon them. It is a curious law, also, that when the fruit or seed form, the phosphates mostly leave the stem and go into them, so as to become concentrated where they are most needed for food. If we cut the plants down before the seeds form, we have all the phosphates the plants contain, diffused throughout them, and if we allow the seed to ripen, the phosphates, as before observed, will be found mostly in the seed. We find them in the shape of phosphate of potash, phosphate of soda, phosphate of magnesia, and phosphate of lime, and probably, also, phosphate of ammonia.

Now, all these salts are essential to the growth and sustenance of animals, and without them grain would cease to be sufficient food.

When the farmer raises crops for sale, and removes his grain and grasses from the soil, he SELLS A PORTION OF HIS SOIL; *and if he does not renew in some way, the saline matters taken away in his crops, he invariably impoverishes his soil.* The work of exhaustion is now going on to a most alarming extent, and prolific wheat lands are to be searched for farther and farther westward as the operation proceeds.

Every one knows the superiority of wheat grown on newly cultivated lands, and most farmers are aware of the fact that soils become exhausted of something, they know not what, but of something essential to the most favorable production of grain. —*Western Agriculturist.*

THE PROPER TIME FOR PRUNING.

A correspondent makes some inquiries relative to the proper time for pruning apple trees, and remarks it has been the general practice to prune in the spring. Very small limbs may be safely cut off at any season whenever it is convenient; and when the trees have proper care and attention, it will seldom be necessary to remove any large limbs. But there are many trees which have been badly neglected, and large decaying and profitless limbs should now be removed from them; and where this is necessary, the fall is a more suitable time than the spring, for the reason that the wounds made in autumn will remain dry and sound for years, and until the bark closes over them, while wounds made in spring turn black and decay, leaving holes which frequently ruin the tree. Mr. Cole, the author of the American Fruit Book, prefers October, November, or even December, to the spring, which he says is the worst season.—"Thirty-two years ago, in September," he remarks, "we cut a very large branch from an apple tree, on account of injury by a gale. The tree was old, and it has never healed over; but it is now sound, and almost as hard as horn, and the tree perfectly sound around it. A few years before and after, large limbs were cut from the same tree in spring; and where they were cut off the tree has rotted, so that a quart measure may be put into the cavity.—*Maine Farmer.*

PLOWING.

The Amherst (N. H.) Cabinet, recently published the Report of the committee on plowing, which was made to the Hillsborough County Agricultural Society in that State. It may be found profitable to compare the opinions of individuals from various, and widely extended districts; we therefore give some extracts from the report of the committee mentioned above.

"In the first place, in breaking up most kinds of sward land, a depth of at least eight inches, in our opinion, is necessary to the successful cultivation of the soil. The old-fashioned mode of merely skimming the surface, and half doing that only, finds no advocate in your committee. We are not

afraid of the sight of a little yellow dirt, which has laid undisturbed and been trodden too far under foot, by man and beast, for a series of generations. We believe that this substance, when exposed to the action of the atmosphere, will imbibe all the elements of fertility which are to be found in the surface soil, and that the growth of all crops will be greatly promoted, and by enabling the water more rapidly to disappear from the surface in time of excessive wet weather, and by more ready absorption, to resist the action of severe drowth by attraction and retention of moisture from the atmosphere and the bosom of mother earth.

In the next place, we believe a complete inversion of the furrow slice to be essentially necessary to good plowing. This mode gives repose, in some measure, to the exhausted surface, and brings into action all the latent powers of production of the under soil that have accumulated from time to time by the leachings from the surface, and otherwise.

We consider it, also, as indisputably necessary that all the soil should be moved. We have no faith in the hog rooting, cut-and-cover system practiced by many.

To effect good plowing, then, these things are absolutely necessary, to wit: a good plow; a competent, well-disciplined team to draw, and a skilful plowman to guide it.

DISCOVERY OF WOODPECKERS' STORES.

In stripping off the bark I observed it perforated with holes larger than those which a musket bullet would make, spaced with most accurate precision, as if bored under the guidance of a rule and compass, and many of them filled most neatly with acorns. Earlier in the season I remarked the holes in mostly all the softer timber, but, imagining they were caused by wood insects, I did not stop to examine or inquire; but now, finding them studded with acorns firmly fixed in, which I knew could not have been driven there by the wind, I sought for an explanation, which was practically given me by Captain S——'s pointing out a flock of woodpeckers busily and noisily employed in the provident task of securing their winter's provisions, for it appears that that sagacious bird is not all the time thriftlessly engaged "tapping the hollow beach tree," for the mere idle purpose of empty sound, but spends its summer season in picking those holes, in which it lays its store of food for the winter, where the elements can neither affect it or place it beyond their reach, and it is considered a sure omen that the snowy period is approaching when these birds commence stowing away their acorns, which otherwise might be covered by its fall.

I frequently paused from my chopping to watch them in my neighborhood, with the acorns in their bills, half clawing, half flying round the tree, and admired the adroitness with which they tried it at different holes until they found one of its exact calibre; when, inserting the pointed end, they tapped it home most artistically with their beaks, and flew down for another. But their natural instinct is even more remarkable in the choice of the nuts, which you will invariably find sound; whereas it is a matter of impossibility, in selecting them for roasting, to pick up a batch that will not have half of them unfit for use, the most safe and polished looking very frequently containing a large grub generated within. Even the wily Indian, with all his craft and experience, is unable to arrive at anything like an unerring selection, while in a large bag full that we took from the bark of our log, there was not one containing the slightest germ of decay. They never encroach on their packed store until all on the surface are covered, when they resort to those in the bark, and peck them of their contents without removing the shell from the holes.—*Kelly's Excursion to California.*

GARDEN MANURE APPLIED IN FALL AND WINTER.

Frequent complaints are made by those who are limited in their gardening operations that whatever manures they do apply to their gardens, burn up their crops when the heat of summer comes on. We have felt this inconvenience too, and in looking around to find a remedy, have come to the conclusion that whenever a garden requires active stimulating manures, they should be applied in the fall, or winter; in this way rank stable manure may be applied, and spaded or ploughed under immediately. It will have become by spring the proper food of plants, and as all manures leech upwards, the surface soil will be in fine condition for the growth of vegetables; whereas if the manure is applied at planting time, especially the crude manures generally applied here, just as vegetables are most required, they are fired by action of the sun on the manure, and the gardener has the mortification to find his labor and money thrown away. Whatever manures are applied in the spring should be well rotted, or of a cooling nature. There are many families that annually waste a barrel or two of leeched ashes, when had it been applied to the garden patch, they would have had "yearly yorks" as well as their neighbors.

The soap-suds from the wash tub is a manure that may be applied with safety and with profit in the spring, and yet how few ever use them except to enrich the earth around their kitchens, and make loathsome mudholes, when perfumed flowers, luscious fruits and mammoth vegetables, might have been made by them. We do not yet properly appreciate the importance of a garden. The bearing it has upon the happiness and health of a family is plainly perceptible whenever we find a well conducted garden; how highly important, then, that we should understand the proper food of plants. He would certainly be a mad physician who would give his fevered patients stimulants to raise the fever higher and higher, until vitality was consumed. So with the gardener, plants are frequently stimulated to death, for the want of proper cooling food. Our garden soils can scarcely be too rich, but it must be a richness retentive of moisture, and not as would be the case if the stable manure was applied in the spring, be a richness which burned everything in contact with it. Ho, then, for your wagons and wheelbarrows, load them up, and cover your gardens quickly; plow them up, turn the manure under; and when the early seed-time comes, you need not fear but a harvest will follow.—*Columbus Enquirer.*

☞ The laboring man in the present age, if he does but read, has more helps to wisdom than Solomon had.

Mechanics' Department, Arts, &c.

PAPER FROM FLAX.

A great part of the printing paper used in this country is made from foreign rags—the nations of cultivated Europe having more of the raw material than is needed for the very limited amount of paper which their despots permit them to enjoy. These rags often come to us freighted with filth, infection and disease. Repeatedly has an extensive district been scourged with the small-pox, or other pestilence, derived through a paper-mill from these infectious rags. Our paper is inferior to the English because its stock is mainly cotton, while that of the English is linen.

A little enterprise and inventive genius might effect a happy change here, in the substitution of flax lint for cotton rags as the basis for paper.—Flax may be grown profitably at ten dollars per ton for the unrotted straw or stalk, of which six tons yield a ton of lint or fibre, making the cost of growing the fibre three cents per pound. This can be broken out and dressed for about one cent per pound more. We think Clemen's Machine, now on exhibition at the Castle Garden Fair, will do this, and we do not consider that perfection. A mere trifle—say half a cent at the outside—will defray the cost of bleaching and softening that fibre so as to fit it admirably for paper-making.—These are but approximations, yet we feel confident that, on an extensive scale, and with the best machinery, flax lint, suited to the manufacture of paper, may be produced for less than five cents per pound, which is certainly less than an inferior article of clean white rags can be bought for. Will not our great paper-makers look into this matter? —*New-York Tribune.*

FIRE VARNISH.

The Paris correspondent of the St. Louis Republican says:

"An important discovery, even better than Mr. Phillips's famous extinguisher, is the fire varnish recently brought out by a Spaniard, Don Jose Gueseda. It was first tried at Matanzas in the presence of the Governor and city authorities, and succeeded to the admiration of everybody. It has since been tried at Madrid. Five small frame houses, covered with tar and turpentine, were erected in an open square. Two of these houses were covered with the varnish and the others were not. The latter were reduced to ashes almost as soon as they were set on fire, whereas the former, in spite of the tar and turpentine, remained perfectly uninjured to the end of the trial, which lasted two hours. The trial was the more severe as the five houses were close together, and all of them were on fire in the inside, but the flames did not break forth at all from the varnished houses; besides this, in the midst of the conflagration, two gallons of some strong essence was thrown upon the varnished houses and they were immediately entirely enveloped in flames; but when the liquid was exhausted, the walls appeared perfectly intact as before. Don Gueseda is about to get out a patent for this wonderful varnish, which he says will become as cheap as it is valuable, and he can put it within the reach of everybody."

Boy's Department.

REMEMBER THIS, BOYS.

Will the young men whose evenings are now spent on store boxes and other places of idle resort, or in idleness even at home, read and reflect upon the following?

"I learned grammar," said William Cobbett, who became an eminent printer and writer, "when I was a private soldier on sixpence a day. The edge of my guard-bed was my seat to study in, my knapsack was my book-case, and a board lying on my lap was my desk. I had no money to buy candles or oil; in winter it was rarely that I could get any light but that of the fire, and only my turn even at that. To buy a pen or a sheet of paper, I was compelled to forego a portion of food, though in a state of starvation. I had no moment at that time that I could call my own, and I had to read and write amid talking, singing, whistling and bawling of at least half a score of the most thoughtless of men, and that too, in hours of freedom from control. And I say, if I, under circumstances like these, could encounter and overcome the task, can there be in the whole world, a youth who can find excuse for non-performance?"

LION CATCHING IN SOUTH AFRICA.

Mr. Lemue, who formerly resided at Motito, and is familiar with the Kalliharri country, assured me that the remarkable accounts sometimes circulated as to the people of that part of Africa *catching lions by the tail*, and of which I confess I was very incredulous, were perfectly true. He well knows that the method prevailed, and was certainly not uncommon among the people. Lions would sometimes become extremely dangerous. Having become accustomed to human flesh, they would not willingly eat anything else. When a neighborhood became infested, the men would determine on the measures to be adopted to rid themselves of the nuisance; then forming themselves into a band, they would proceed in search of their royal foe, and beard the lion in the lair. Standing close by one another, the lion would make his spring on some one of the party—every man, of course, hoping he might escape the attack—when instantly others would dash forward and seize his tail, lifting it up close to the body with all their might; thus not only astonishing the animal, and absolutely taking him off his guard, but rendering his efforts powerless for the moment; while others closed in with their spears, and at once stabbed the monster through and through.—*Rev. J. J. Freeman's Tour in South Africa.*

HONOR AND PROFIT OF INDUSTRY.

The greatest of men have been trained up to "work with their hands." If there is an encouraging sentence in the English language, it is the above. God ordained that man should live by "*the sweat of his face*," and intelligence can breathe and live only in a being of an active life. Aikenside, the author of "The Pleasures of Imagination," was a butcher until twenty-one, and first took to study from being confined in his room, by the fall of a cleaver. Marshal Ney was the son of a cooper; Roger Sherman, Allan Cunningham, and Gifford, were shoemakers; Sir William Herschell was a

fifer boy; Franklin, a printer's devil; Ferguson, a shepherd; Ben Johnson was a bricklayer; James Monroe, the son of a bricklayer; General Knox was the son of a bookbinder; General Green, a blacksmith; General Morgan, a wagoner; Burns, a plough-boy; Bloomfield was a farmer; Frazier, a stone-cutter, Crabbe and Keats, apothecaries; Sir Wm. Blackstone was the son of a silk mercer, and a posthumous child.

Ladies' Department.

DR. CLARKE AND HIS WIFE.

All conference business is not allowed to transpire before the public; and had not the question just expatiated on, not been a public one, it would have been sooner and more summarily dismissed. At the conference to which reference is now made, a subject was about to be introduced, which the preachers were not to disclose even to their wives. Dr. Clarke, who was seated in one of the front seats on the floor of the chapel, partially sheltered from the eye of the president, was in the act of slipping out unperceived, when a voice was heard, "Dr. Clarke is about to leave the conference, Mr. President." President—"You must not go out, Dr. Clarke." Dr. C.—"I must, sir." President—"You must not, Dr. Clarke." Dr. C.—"I will, sir." President (more peremptorily)—"You must not." Dr. C.—"You state, sir, that we are not to tell our wives the subject that is about to be brought forward; I want to hear nothing that I cannot tell my wife; I tell her everything. Those who have talkative wives may refrain from telling them; but mine is not such; what is deposited with her is kept safely." President—"Very good, doctor; you may stop, as your wife can keep a secret." The question was not so much one of delicacy as one respecting which it was necessary to guard against premature disclosure; and subjects frequently escape from a second person thoughtlessly, when out of the pale of the first interdict, as though the responsibility rested solely with the first hearer.—*Rev. James Everett.*

Washing Lace.—I have lately used the following method of washing lace, lace collars, or crochet collars, and find that it not only makes them look well, but saves much of the wear and tear of other washing:—Cover a glass bottle with calico or linen, and then tack the lace or collar smoothly upon it, rub it with soap, and cover it with calico. Boil it for twenty minutes in soft water; let all dry together, and the lace will be found to be ready for use. A long piece of lace must be wound round and round the bottle, the edge of each round a little above the last, and a few stitches to keep it firm at the beginning and end will be found sufficient, but a collar will require more tacking to keep it in its place.

Indian Bread.—An exchange gives the following recipe for making the celebrated St. Charles Indian Bread, as prepared at the St. Charles Hotel, New Orleans:—

"Beat two eggs very light, mix alternately with them one pint of sour milk, or buttermilk, and one pint of fine Indian meal, melt one table-spoonful of butter and add to the mixture, dissolve one table spoonful of soda and saleratus, &c., in a small portion of the milk and add to the mixture the last thing, beat very hard and bake in a pan in a quick oven.

HEAVEN.

BY MRS. SOUTHEY.

O, happy, happy country! where
There entereth not a sin;
And death, who keeps its portals fair,
May never once come in.
No grief can change their day to night—
The darkness of that land is light.
Sorrow and sighing God has sent
Far thence to endless banishment.
And never more may one dark tear
Bedim their burning eyes;
For every one they shed while here,
In fearful agonies,
Glitters a bright and dazzling gem,
In their immortal diadem.

Meekness.—How difficult it is to be of a meek and forgiving spirit, when despitefully used. To love an enemy, and forgive an evil speaker, is an higher attainment than is commonly believed. It is easy to talk of Christian forbearance among neighbors, but to practice it ourselves, proves us to be Christians indeed. The surmises of a few credulous persons need not trouble that man, who knows his cause is soon to be tried in court, and be openly acquitted. So the evil language of the times need not disturb me, since in the day of judgment "my judgment shall be brought forth as the noonday."

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